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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,054	09/13/2002	Alfred Albert Mancini	13DV-13098	2587

30952 7590 06/25/2003

HARTMAN AND HARTMAN, P.C.  
552 EAST 700 NORTH  
VAIPARAISO, IN 46383

EXAMINER

MCNEIL, JENNIFER C

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 06/25/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Applicati n N .

10/065,054

Applicant(s)

MANCINI ET AL.

Examin r

Jennifer McNeil

Art Unit

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-- The MAILING DATE of this c mmunication appears on the cover sheet with the c rrespo ndence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2002 .
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 September 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1 .
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_ .
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Examiner's Comments*

For the purposes of examination, the use of the phrase "layer of platinum" is considered to be open language corresponding to the phrase ~~layer comprising platinum~~. If this is not the way the claim is to be interpreted, please clarify.

### *Specification*

The disclosure is objected to because of the following informalities: Page 3, paragraph 0006, change the reference to the US patent application to the US Patent No.

Page 6, last line, change "lilikely" to ~~likely~~. Also there is no period at the end of the sentence.

Appropriate correction is required.

### *Claim Objections*

Claims 8 and 13 are objected to because of the following informalities: Claim 8 begins with "e", Should this be ~~The~~?

The subject matter of claim 13 is repeated twice in the claim. Please delete one of the sentences.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 1, 4, 14, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Cairns et al (US 4,427,721). Cairns teaches a coated steel substrate for use on surfaces which are exposed to hydrocarbon-containing environments. The coating comprises a first oxide coating, a coating of cerium oxide, and a platinum coating carried by alumina (col. 5, lines 15-22; col. 6, lines 49- col. 7, line 15).

Regarding claims 4 and 14, the barrier layer may be ceria or silica (claims 2 and 3).

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 5-13, and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cairns et al (US 4,427,721). Cairns teaches coating a steel substrate as discussed above, but does not give a specific thickness of the coating layers and does not teach alternative methods of deposition of the coatings. Cairns does teach controlling the coating thickness to less than 1 micron (col. 4, lines 15-24).

Regarding claims 2, 3, 6, 7, 8, 15, 16, and 19, absent a showing of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to deposit the coating with a thickness sufficient to prevent deposition of carbonaceous layer on the steel surfaces, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (*In re Aller*, 105 USPQ 233). Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have selected the overlapping portion of the ranges disclosed by the reference because

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overlapping ranges have been held to be a prima facie case of obviousness (*In re Malagari*, 182 USPQ 549).

The overlapping range is considered all values less than 1 micron.

Regarding claims 5, 6, 10, 11, 18, and 20, Cairns teaches that the coated steel substrate may be used in hydrocarbon-containing environments, such as in chemical plants for cracker tubes, in nuclear reactors as fuel cans, and motor vehicles exhaust treatment (col. 4, lines 30-40; col. 4, line 63- col. 5, line 43). When used as a fuel can, the substrate and coating will be in contact with a hydrocarbon-containing liquid, depending on the use of the fuel, and its origination, it may be heated. It would have been obvious to use the coated substrate in any hydrocarbon-containing environment in which carbonaceous deposits are not desired.

Regarding claim 12, "[E]ven though product-by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." (*In re Thorpe*, 227 USPQ 964, 966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product (*In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP §2113). It is the position of the Examiner that the final product produced by the method limitations in the article claims would be commensurate with the article taught by Cairns.

Regarding claim 13, Cairns does not teach that the outer surface of the coating has a roughness, therefore it is fully expected that the coating will have a roughness not greater than 1 micrometer.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coupland et al (EP 0471505A2). Coupland teaches an article for use in high temperature corrosive environments. The article is protected by successive coatings. The first coating is a metal alloy, the optional second coating is a mixture of ceramic and metal alloy, the third coating is one or more ceramics, and the fourth coating is one or more precious metals, such as platinum (page 1, lines 5-29).

Regarding the limitation of a hydrocarbon fluid containment article, Coupland teaches the use of the articles in turbine engines, which are subject to hydrocarbon exposure. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the article of Coupland in highly corrosive environments, including hydrocarbon-containing environments, as Coupland has shown the articles may be used in similar environments.

Regarding claims 2, 3, 6, 7, 8, 15, 16, and 19, Coupland does not teach a thickness of the ceramic layer, and gives a thickness for the noble metal layer of about 90 microns (page 3, lines 25-30). Absent a showing of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to deposit the coating with a thickness sufficient to provide the desired protection of the steel surfaces, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (*In re Aller*, 105 USPQ 233).

Regarding claims 4, 6, 9, and 17, the ceramic layers may be magnesia, hafnia, thoria, or a mixture thereof, and may also include yttria, silica, titania, and calcia (page 3, lines 7-20).

Regarding claim 12, "[E]ven though product-by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." (*In re Thorpe*, 227 USPQ 964, 966). Once the Examiner provides a rationale

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tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product (*In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP §2113). It is the position of the Examiner that the final product produced by the method limitations in the article claims would be commensurate with the article taught by Coupland.

Regarding claim 13, Coupland does not teach that the outer surface of the coating has a roughness, therefore it is fully expected that the coating will have a roughness not greater than 1 micrometer.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rigney et al (US 6,455,167). Rigney teaches a coating system for a turbine engine component. The coating comprises a metal substrate, a pre-bond coat (39), a ceramic diffusion barrier layer (33), and a metal coating (34) over the diffusion layer. The coating (34) may include platinum (col. 4, lines 30-35).

Regarding the limitation of a hydrocarbon fluid containment article, Rigney teaches the use of the articles in turbine engines, which are subject to hydrocarbon exposure. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the article of Rigney in highly corrosive environments, including hydrocarbon-containing environments, as Rigney has shown the articles may be used in similar environments.

Regarding claims 2, 3, 6, 7, 8, 15, 16, and 19, Rigney teaches a thickness of the ceramic layer as less than 1 micron, and gives a thickness for the platinum-containing metal layer of about less than 1 micron to 10 microns (col. 5, lines 10-20; col. 7, lines 30-36). Absent a showing of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to deposit the coating with a thickness sufficient to provide the desired protection of the steel surfaces, since it has

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been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (*In re Aller*, 105 USPQ 233).

Regarding claims 4, 6, 9, and 17, the ceramic layers may be alumina (col. 6, line 1).

Regarding claim 12, “[E]ven though product-by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” (*In re Thorpe*, 227 USPQ 964, 966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product (*In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP §2113). It is the position of the Examiner that the final product produced by the method limitations in the article claims would be commensurate with the article taught by Rigney.

Regarding claim 13, Rigney does not teach that the outer surface of the coating has a roughness, therefore it is fully expected that the coating will have a roughness not greater than 1 micrometer.



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*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer McNeil whose telephone number is 703-305-0553. The examiner can normally be reached on Monday through Friday, 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on 703-308-3822. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



JCM  
June 24, 2003

Jennifer McNeil  
Examiner  
Art Unit 1775